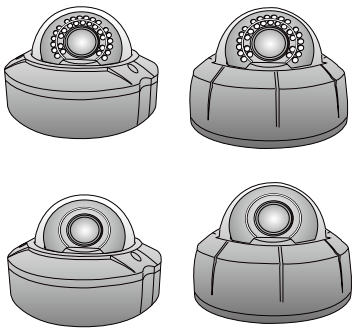
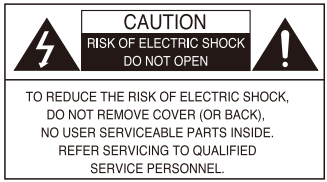
700TVL WDR•3D DNR CAMERA

# 700TVL
# X-WDR/3D DNR
# STANDARD CAMERA
## USER'S MANUAL



- Sony 1/3" 960H CCD II
- High Resolution 700TV Lines
- WDR(Wide Dynamic Range)
- 3D DNR(Digital Noise Reduction)
- Sens-Up Function(x512)
- Eclipse Function
- Zero Defect
- Day & Night (TDN-Optional)
- Motion Detection
- Back Light Compensation
- RS485 / PELCO-D
- Privacy Mask(Polygonal,8 Colors)
- O.S.D menu function

960H/ES 004 302


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK),
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED
SERVICE PERSONNEL.

The lightning flash with an arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

INFORMATION - This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

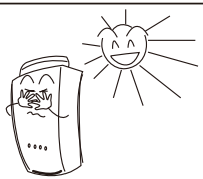
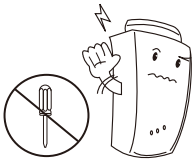
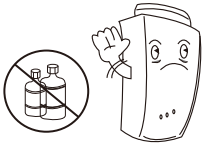
WARNING - Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

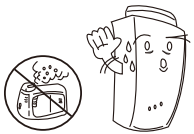
CAUTION : To prevent electric shock and risk of fire hazards:

- Do NOT use power sources other than that specified.
- Do NOT expose this appliance to rain or moisture.

This installation should be made by a qualified service person and should conform to all local codes.

## Precaution

| | |
|---|---|
|  | Do not Keep the camera face to strong light directly |
| | Do not install the camera in extreme temperature conditions. |
|  | Do not disassemble the camera even if troubles happened |
|  | To avoid malfunctions, never use the camera close to a gas or oil leak |

| | |
|---|---|
| | Do not drop the camera or subject them to physical shocks. |
| | Do not expose the camera to rain or spill beverage on it. |
| | Do not install the camera under unstable lighting conditions |
|  | Do not install or use the camera in an environment where the humidity is high |

## 1. Features

**WDR(Wide Dynamic Range)**
Delivers a powerful Wide Dynamic Range to the camera which provides superior images, internally and externally, even under extreme light and dark contracts. It automatically compensates the necessary light levels to get detailed information in the dark part of the image without saturation from the bright part. It enables the WDR function to be very efficient, using a normal CCD, by using a Dual Shutter (long & short shutter) algorithm, a specialised AE (Auto Exposure) and intelligent image processing.

**700 TVL ULTRA HIGH RESOLUTION**
The horizontal resolution of 700 TV Lines with 960H CCD. It gives a vivid image output with super high horizontal resolution using our own De-Mosaic Interpolation algorithm and a specialised built-in sharpness filter.

**3D DNR(Digital Noise Reduction)**
Achieves excellent 3D-DNR (3-Dimensional Digital Noise Reduction) function using upgraded 3D filtering. This function is automatically enabled when the camera is being used and provides clear and superior images in very low light luminance. Normally video noise increases in low light conditions, while the gain level of the amplifier increases. It compensates for the dynamic noise using the inactive information of a normal frame

**ZERO DEFECT**
Adaptive Defect Correction delivers clear picture capture in very low light luminance using two algorithms for defect pixel compensation.

**Sens-Up(x512, DSS)**
Achieves high quality pictures by supporting a long exposure time - more than 1/50second - and enables recognition of the shape and color of a suspended object under no light conditions - in cases where exposure time is greater than 8 seconds (x512).

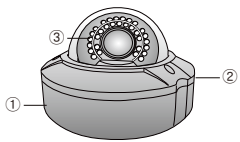
**POLYGONAL PRIVACY MASKING(Polygonal, 8colors)**
Ensures privacy protection for private and specific areas on the video signal output using a polygonal masking function. It allows the size and position of the masking areas to be controlled very easily, and there are 8 mask areas which are user programmable - color, brightness and mosaic.

**ECLIPSE**
Enables the recognition of a visible car license plate by blocking unwanted light sources.

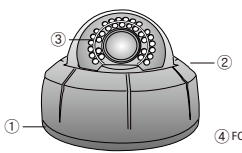
**HIGH SENSITIVITY TRUE DAY&NIGHT**
The Day & Night function delivers high quality color rendition and converts automatically into monochrome as luminance levels drop.

## 2. Names and Functions of Parts

IR LED Type

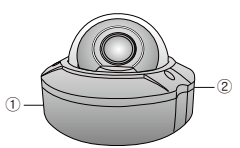



DIMESION:145(Ø) x 106(H)mm

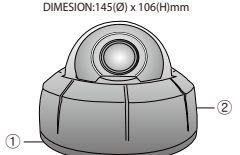



DIMESION:144(Ø) x 103(H)mm

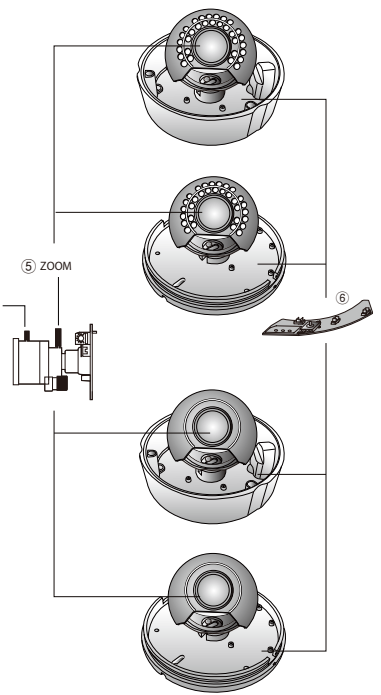
Non IR LED Type



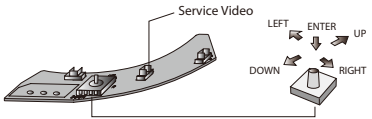

DIMESION:145(Ø) x 106(H)mm



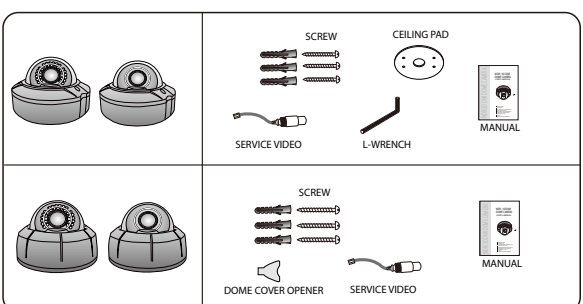

DIMESION:144(Ø) x 103(H)mm



① Base
② Dome Cover Ring
③ IR LEDs
④ Focus Handle
Used to provide for accurate of an object within the lens field of view
⑤ Zoom Handle
Used to adjustzoom magnification by turning
⑥ OSD Board



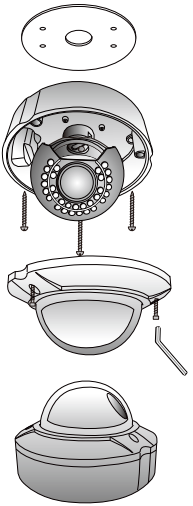

## 3. Components



## 4. Installation & Connection

Vandalproof Dome Camera

Wall

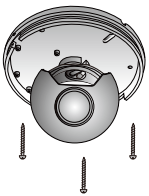


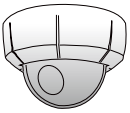
Note :

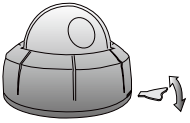
* Ceiling pad(gasket) should be sticked to above base in installation place.
* Wall mounting backet and other instruments should be used with dome camera if the installation condition is not appropriate to cover the whole dome base.

Plastic Dome Camera

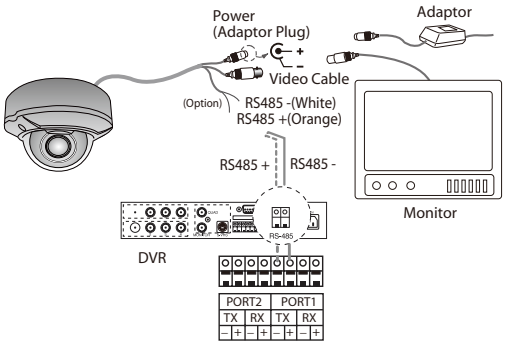
Wall



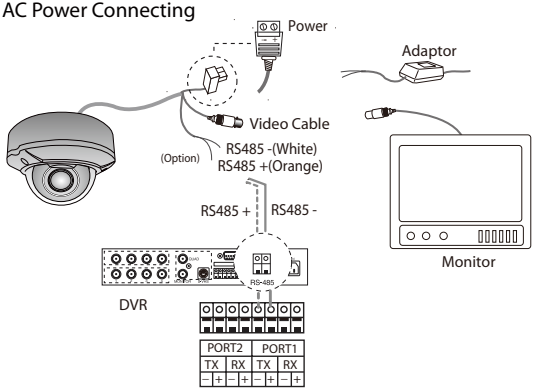




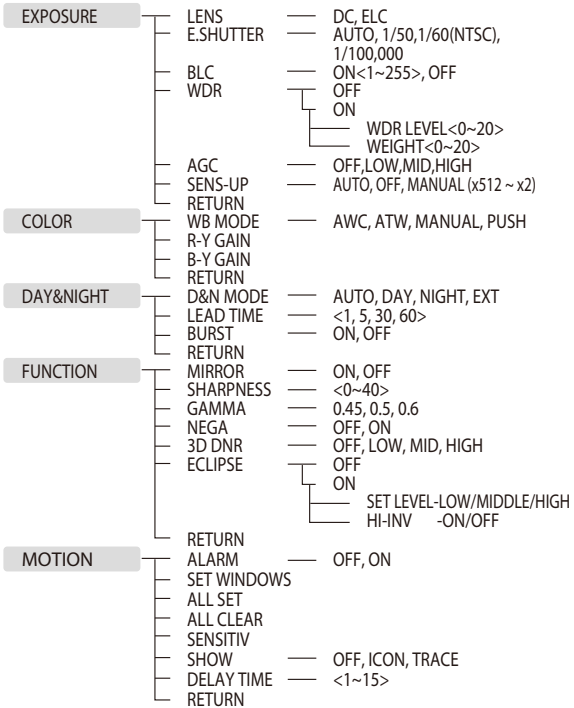
## DC Power Connecting

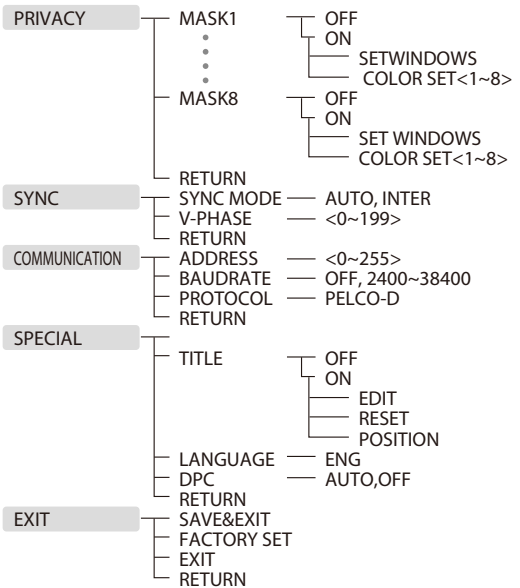



## AC Power Connecting



## 5. Setup Menu Flow

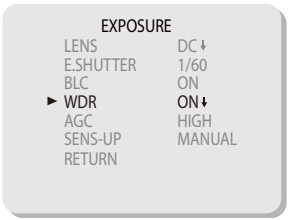



PRIVACY
MASK1
OFF
ON
SETWINDOWS
COLOR SET<1~8>
MASK8
OFF
ON
SET WINDOWS
COLOR SET<1~8>
RETURN
SYNC
SYNC MODE
AUTO, INTER
V-PHASE
<0~199>
RETURN
COMMUNICATION
ADDRESS
<0~255>
BAUDRATE
OFF, 2400~38400
PROTOCOL
PELCO-D
RETURN
SPECIAL
TITLE
OFF
ON
EDIT
RESET
POSITION
LANGUAGE
ENG
DPC
AUTO,OFF
RETURN
EXIT
SAVE&EXIT
FACTORY SET
EXIT
RETURN

## 6. Special Features

### 1. WDR(Wide Dynamic Range)

Wide Dynamic Range is essential for capturing the images at all light levels.



1) WDR LEVEL :

You can set the WDR(Entry) LEVEL on the entry timing for this function. You have to set the level into low number if you need a WDR function just in more strong light.

On the contrary you have to set the level into high number if you need a WDR function just in normal conditions(or low light) without strong lights as like sunshine.

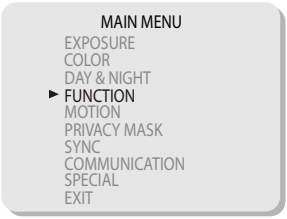
| WDR Entry Level (Day Time) (0~20) | 0 2 4 6 | 8 10 12 14 | 16 18 20 |
|---|---|---|---|
| | | | |
| | **Strong Sunshine Light (Day Time)** | **Middle Light (Day Time)** | **Low Light (Day Time)** |
| | ※Eclipse mode should be Off while you use WDR function. (Eclipse is just a special WDR function for car license plate) | | |

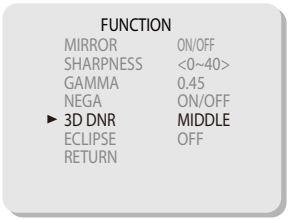
2) WEIGHT : This is a level to make the dark area more bright.
Low number for more dark condition and high number for more brightness condition.

## 2. 3D DNR(Digital Noise Reduction)

Select 3D DNR ON or OFF.
3D-DNR function reduce the background noise in a low luminance environment. Upgraded 3D filtering ensures even more clear image.

[DNR Level High : Picture image is more clear but Ghost is more increased.
DNR Level Low : Picture image is not clear but less Ghost.]

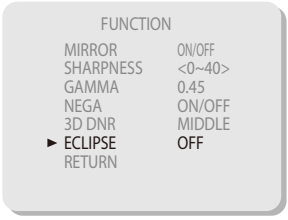



## 3. ECLIPSE

If there is a highlight within a limited environment such as car park, It makes it possible to review vehicle license plates by removing the highlight.

[Only used for car license plate in low light condition and the WDR in OSD menu should be Off mode while Eclipse work as On mode]



# 7. SPECIFICATIONS

| | | | |
|---|---|---|---|
| TV System | | NTSC | PAL |
| Sensor | | Sony 1/3" 960H CCD II | |
| Total Pixel | | 1020(H) X 508(V) | 1020(H) X 596(V) |
| Effective Pixel | | 976(H) X 494(V) | 976(H) X 582(V) |
| Synchronization | Internal | H/V 15.734/59.94Hz | H/V 15.625/50Hz |
| | Line Lock | H/V 15.750/60Hz | H/V 15.625/50Hz |
| Scanning System | | 2:1 Interlace | |
| Horizontal Resolution | | 700 TV Lines | |
| Min. Illumination | Sens-Up Off | 0.12Lux(15IRE), 0.2Lux(30IRE), 0.4Lux(50IRE) F1.2 | |
| | Sens-Up On | 0.0002Lux(15IRE), 0.0005Lux(30IRE), 0.0008Lux(50IRE) F1.2 | |
| Video Output | | 1.0Vp-p/ 75ohm Video 0.714Vp-p | |
| γ Correction | | 0.45, 0.5, 0.6 | |
| S/N | | More than 52dB(AGC off) | |
| O.S.D | | LENS,E-SHUTTER, BACKLIGHT,WDR, AGC, SENS-UP | |
| | | WHITE-BALANCE, DAY&NIGHT, MOTION, MIRROR | |
| | | SHARPNESS, GAMMA, DNR, ECLIPSE, PRIVACY | |
| | | COMMUNICATION, SYNC, TITLE, LANGUAGE | |
| | | DPC | |
| Electrical Shutter | | 1/60~1/100,000 | 1/50~1/100,000 |
| Privacy Masking | | 8 Windows(Polygonal, 8 Colors) | |
| Day & Night | | COLOR / BW / AUTO / EXT | |
| Motion Detection | | ON / OFF | |
| Sens-Up(Low Shutter) | | OFF ~x512 | |
| SYNC | | AUTO / INTERNAL / DIGITAL LINE LOCK | |
| White Balance | | ATW / AWC / MANUAL / PUSH | |
| WDR | | ON / OFF(WDR LEVEL, WEIGHT) | |
| WDR Level | | 120dB Max. | |
| 3D-DNR | | ON / OFF(OFF, LOW, MID, HIGH) | |
| MIRROR | | ON / OFF | |
| NEGA | | ON / OFF | |
| ECLIPSE | | ON / OFF | |
| AGC | | LOW / MIDDLE / HIGH / OFF | |
| | | IR LED Type | Non IR LED Type |
| IR LEDs | | 30 pcs | |
| Night View Distance(Outdoor) | | Outdoor 25m | |
| LENS | | 2.8~12mm TDN DC Iris Varifocal Lens (Option w/o TDN) | |
| Operating Temperature/Humidity | | -20 ~60 / 30% ~80% | |
| Storage Temperature/Humidity | | -30 ~60 / 20% ~90% | |
| Power(Max.) | DC Type | DC 12V 4500mA | DC 12V 120mA |
| | DC/AC Type | DC 12V 550mA, AC 24V 250mA | DC 12V 200mA, AC 24V 80mA |
| | | [Recommended-Voltage : +/- 20%, Current: Adapter with rated power of 2 times(than real using current] | |

Design and specifications are subject to change without notice.

## PRODUCT WARRANTY CARD

| |
|---|
| 1) ITEM # : |
| 2) S/N # : |
| 3) INSTALLATION CONDITION<br>- Indoor ☐ / Outdoor ☐<br>- Power supply SPECIFICATION :<br>DC12V ☐ / AC24V ☐<br>CURRENT _____ mA |
| 4) TROUBLESHOOTING<br>- No picture ☐<br>- Bad image ☐<br>- No power ☐<br>- Water damage ☐<br>- LED ON ☐ / OFF ☐<br>- ETC. : ☐ |
| * Please keep this warranty card with the manual.<br>* Please fill out this warranty card and send us this warranty card with the faulty units together. |

■ Following cases can be charged even within the warrany period.

a. When defects are caused by user's carelessness.

b. When improper or unauthorized repairs are done or when the inside is modified or damaged.

c. Defects caused by natural disaster or power problem.

d. When the warranty card is not filled out or corrected unconfirmed.